

Work Order ID 155569***155569***

Page 1

Tuesday, January 17, 2017 11:27:14 AM

Item ID: 647.1601

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Wiper Deflector Aft

Start Date: 1/12/2017 Start Qty: 2.00

2

Cust Item ID:

Required Date: 1/17/2017 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals:

Process Plan:

DAS
21
9-89

Date: JAN 18 2017

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
647.1600	A								
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00				4x			17/02/16
Packaging									
120		0.00							
120									
Small Fab	Memo	0.00				4x			17/02/16
Small Fab	1- Assemble as per dwg								
130	QC5- Inspect part completeness to step on W/O	0.00							
130									
QC	Memo	0.01				4			DAS 38 9-89
Quality Control									

FEB 17 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Work Order ID 155569

Tuesday, January 17, 2017 11:27:14 AM

155569

Page 2

Item ID: 647.1601 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Wiper Deflector Aft
Start Date: 1/12/2017 Start Qty: 2.00 ***2*** Cust Item ID:
Required Date: 1/17/2017 Req'd Qty: 2.00 ***2*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Identify as per dwg & Stock Location: <u>CCK 5091</u>	0.00							
140									
Packaging	Memo	0.00							
Packaging	***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***								
150	QC21- Final Inspection - Work Order Release	0.00							
150									
QC	Memo	0.03							
Quality Control									

4 FEB 21 2017 DAS 6 9-89
17/2/22 JF
mrf
17-2-21

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Picklist Print

Tuesday, January 17, 2017 11:27:13 AM

Page 1

Work Order ID: 155569

155569

Parent Item: 647.1601

647 1601

Parent Item Name: Wiper Deflector Aft

Start Date: 1/12/2017

Required Date: 1/17/2017

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A 12.10.04 NEW ISSUE DD VERF:JFS

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

647.1611

Manufactured

No

Each

1.0000

647 1611

Wiper Deflector, Aft

**

Location

Loc Qty

Loc Code

CCK091

1

153783

1

647.1612

Manufactured

No

Each

8.0000

647 1612

Splice Plate

**

Location

Loc Qty

Loc Code

CCK108

8

154493

8

NAS1149FN832P

Purchased

No

Each

1,533.000

NAS1149FN832P

Washer

**

Location

Loc Qty

Loc Code

GA

576

M135058

232

M136182

344

ST263

957

M136182

957

MS21042-08

MS21042L08

Purchased

No

Each

0.0000

MS21042-08

USE MS21042L08

**

FEB 15 2017

FEB 15 2017

FEB 15 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
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Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐				

Picklist Print

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Page 2

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Parent Item: 647.1601

647 1601

Parent Item Name: Wiper Deflector Aft

Start Date: 1/12/2017

Required Date: 1/17/2017

Start Qty: 2.00

Required Qty: 2.00

MS27039-08-12

Purchased

No

Each

118.0000

MS27039-08-12

Screw

**

DAS
6
9-89

FEB 15 2017

Location

Loc Qty

Loc Code

ST278

118

123352 +1

18

124326

100

12

M136199

DAS
36
9-89

12X

Tuesday, January 17, 2017 11:27:13 AM

Shop Packet Print

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 04229				SHEET 1 OF 1	
	DWG NO. 647.1600	REV: A	PREPARED BY J. SOTO	DATE: 11/11/2013	EFFECT ON DWG ☐ INC. ☒ UNINC.	
	DWG TITLE: WIPER DEFLECTOR ASSY					
	APPROVED BY: ENGR <i>[Signature]</i>	MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF. NEXT ORDER		
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE	REASON: REVISED F/N 8					ECR: 13-032

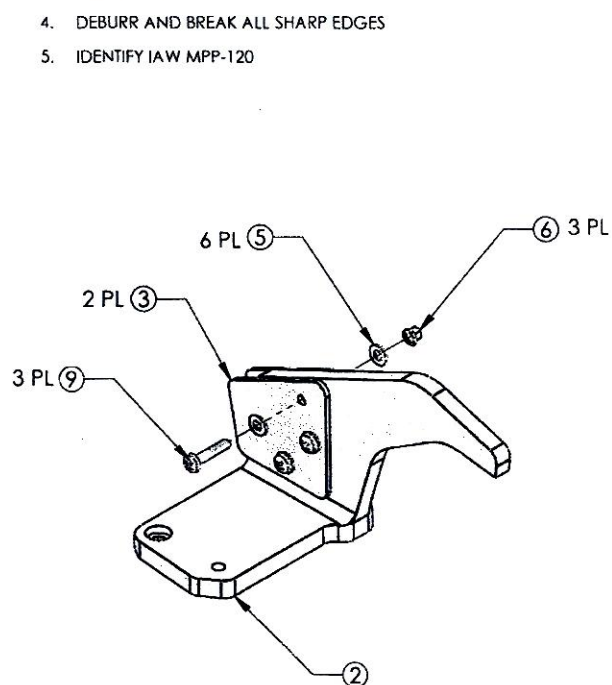
SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 155569 MLCJ
 17-01-18

8	R	601.2207	8		NUTPLATE RIVET	CCR265SS3-3	
F/N	TC	PART NUMBER	.1602	.1601	DESCRIPTION	MATERIAL	SPECIFICATION
		QTY					
DOCUMENTS EFFECTED:						CHANGE CATEGORY	DER REVIEW REQUIRED
☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☒ BOM						☐ MAJOR ☒ MINOR	☐ YES ☒ NO

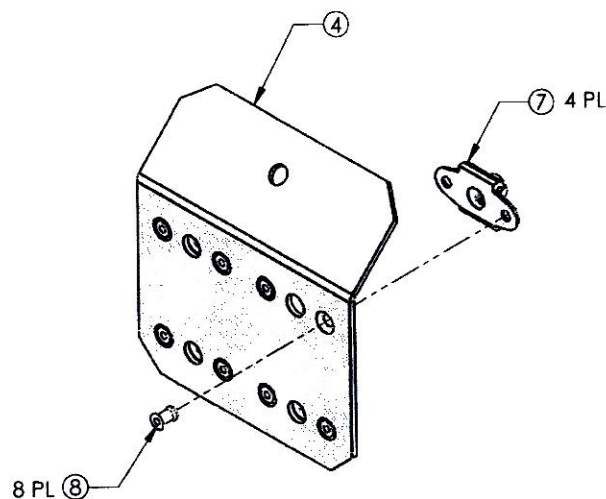
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 AMS-QQ-A-250/12
- 2 MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4
- 3 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER PRIME IAW MIL-P-23377J TYPE I CLASS N
4. DEBURR AND BREAK ALL SHARP EDGES
5. IDENTIFY IAW MPP-120



647.1601 SHOWN EXPLODED



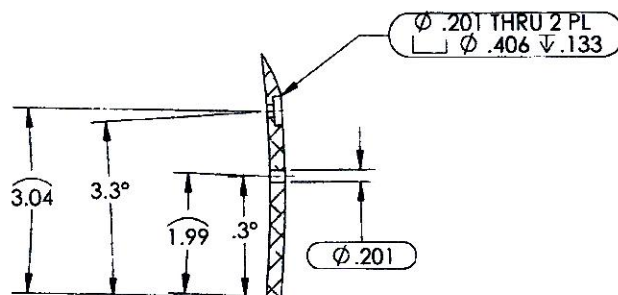
647.1602 SHOWN EXPLODED

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
1	LAST PROTOTYPE REVISION #41		N/C
2	INITIAL RELEASE	05/10/09	P BRAVO
3	INCORPORATED ECN 04229	08/09/15	P BRAVO

UNINCORPORATED ECN(s)

04229

QTY	3	9	601.2989	SCREW	MS27039-0812	
8	8	601.2980	NUTPLATE RIVET	CCP26455-3-04		
4	7	601.1900	NUTPLATE	MS21059-3		
3	6	601.2973	LOCKNUT	MS21042-03		
6	5	601.2764	WASHER	MS1149FFNB32P		
1	4	647.1613	DOUBLER		2	3
2	3	647.1612	SPLICE PLATE		2	3
1	2	647.1611	WIPER DEFLECTOR, AFT		1	3
1	1	647.1610	WIPER DEFLECTOR, FWD		1	3
X		647.1602	DOUBLER ASSY			
X		647.1601	WIPER DEFLECTOR ASSY, AFT			
1602	1601	FIND #	PART #	DESCRIPTION	MATL	SPEC.
NEXT ASSY (S)			PARTS LIST			
647.1300			APICAL INDUSTRIES			
			2608 TEMPLE HEIGHTS DR.			
			OCEANSIDE, CA. 92056-3512 (760)724-5300			
			WIPER DEFLECTOR ASSY			
			UNLESS OTHERWISE SPECIFIED			
			DIMENSIONS ARE IN INCHES			
			DECIMALS ARE 2 PLACE DECIMALS ± .01			
			ANGLES ± .5°			
			SIZE CAGE CODE DWG NO		REV	
			B 07M26		647.1600 A	
			SCALE NONE		SHEET 1 OF 6	



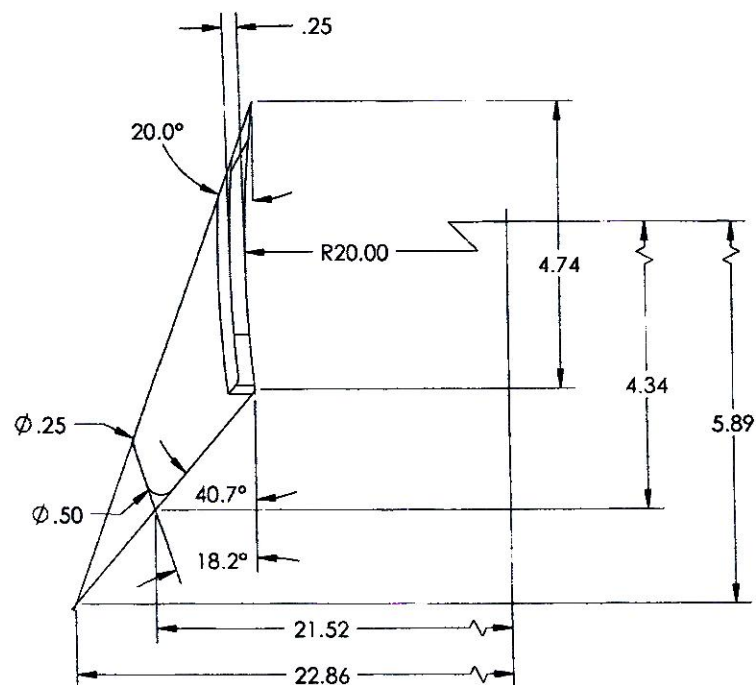
Technical drawing of a mechanical part, likely a valve or plug, showing a cross-section with various dimensions and features. The drawing includes a central vertical shaft with a conical section and a horizontal flange. Dimensions are given in inches and millimeters. Key features include a 136.0° angle, a 6.46 inch total height, and a 3.85 inch section height. Arrows labeled 'D' indicate specific diameters or features.

Dimensions (inches):

- 2.00 (Total width)
- .86 (Top left offset)
- .44 (Top left offset)
- .72 (Top left offset)
- 1.145 (Top right offset)
- .94 (Top right offset)
- .63 (Top right offset)
- 3.85 (Section height)
- 6.46 (Total height)
- 4.77 (Section height)
- 136.0° (Angle)
- 1.20 (Bottom right offset)
- .40 (Bottom left offset)
- .86 (Bottom left offset)
- 1.14 (Bottom left offset)

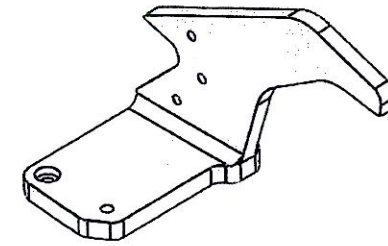
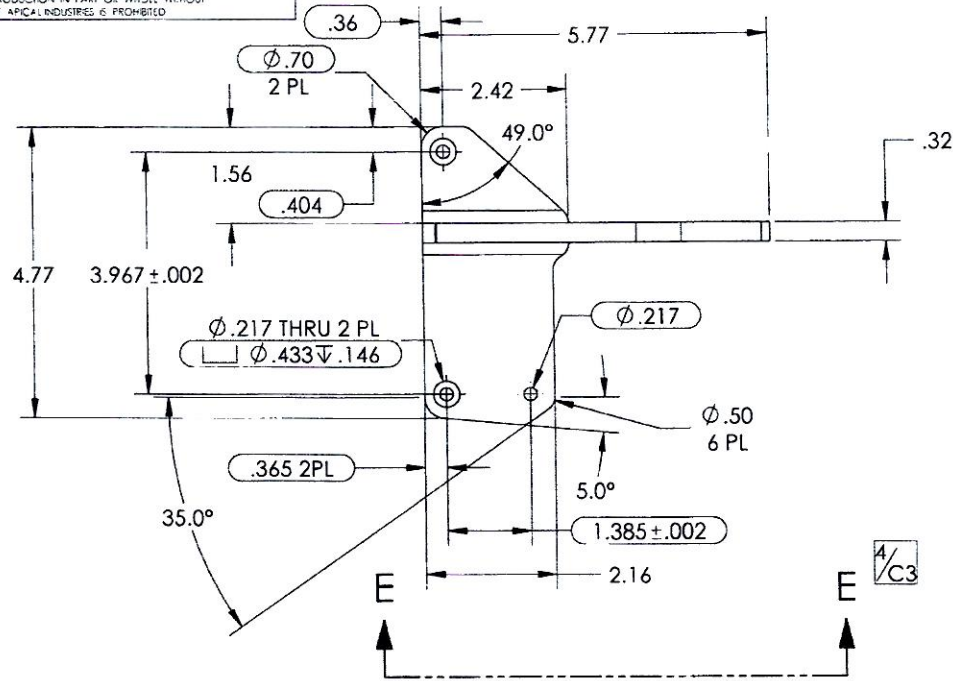
Labels:

- D (Diameter/Feature indicator)

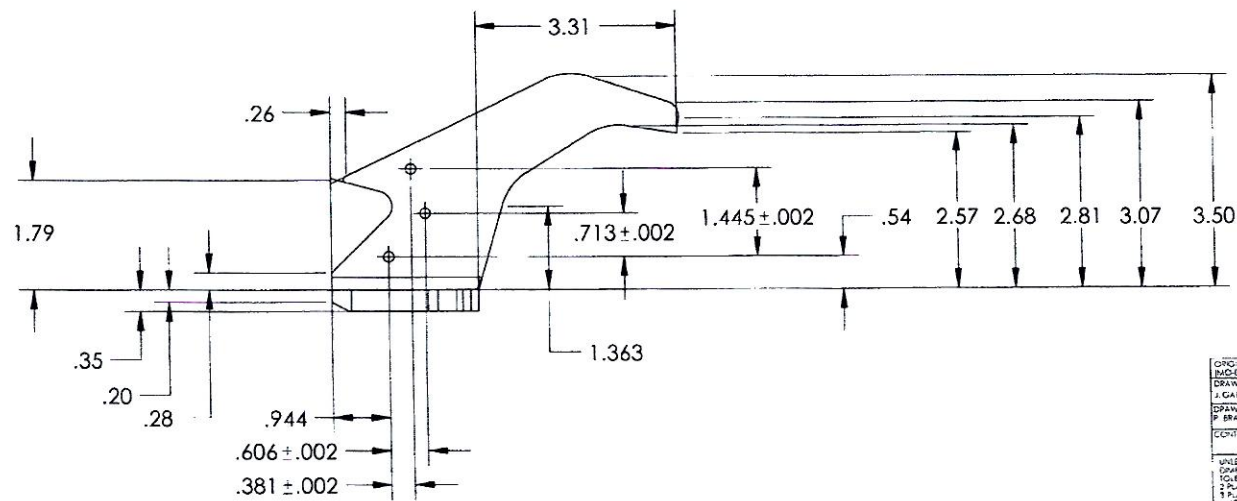


ORDER DATE AUG 24 1981	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300 WIPER WIPING APPARATUS		
DRAWN BY PROJECT			
CATCHES P. CAUCHES			
DRAWING APPROVAL P. BANG			
CO-OPERATION			
SHEETS COMPISED SPECIFIED DIMENSIONS ARE IN INCHES DIMENSIONS ARE PLACES DESIGNATE: 10 PLACES DIMENSIONS: 1000 1/4"			
SIZE	CAGE CODE	DWG. NO.	REV.
B	07M16	647.1600	A
SCALE: NONE			SHEET 2 OF 6

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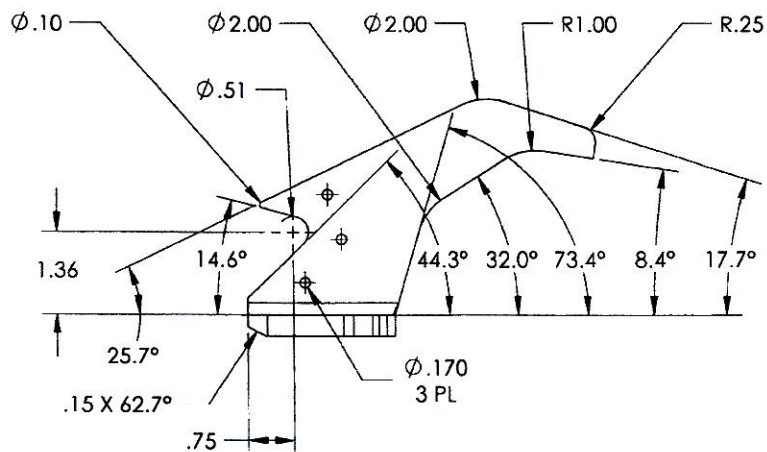


647.1611

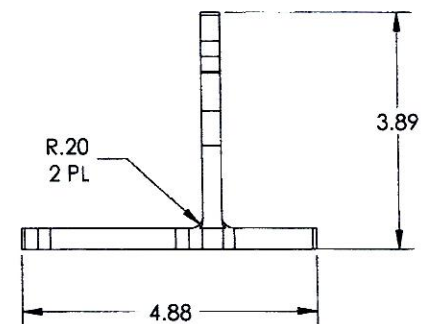


ORIGINAL DATE 1/20/01		APICAL INDUSTRIES	
DRAWN BY J. GARDNER		2608 TEMPLE HEIGHTS DR.	
CHECKED BY P. BRAVO		OCEANSIDE, CA 92056-3512 (760) 724-5300	
DRAWING APPROVAL P. BRAVO		WIPER DEFLECTOR ASSY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS $\pm .01$ 2 PLACE DECIMALS $\pm .005$ ANGLES $\pm .5^\circ$		SEE TAGS FOR B 07M26	REV A
SCALE: NONE		647.1600	SHEET 3 OF 6

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SECTION E-E 3/84



ORIGINAL DATE 12/05/10 BY: G. HODG		APICAL INDUSTRIES	
DRAWN BY: J. GARDNER		2608 TEMPLE HEIGHTS DR.	
CHECKED BY: P. BRAVO		OCEANSIDE, CA 92056-3512 (760) 724-5300	
DRAWING APPROVAL: P. BRAVO		WIPER DEFLECTOR ASSY	
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS ±.01 ANGLES ±.5°		SHEET 4 OF 6	REV A
		SCALE: NONE	

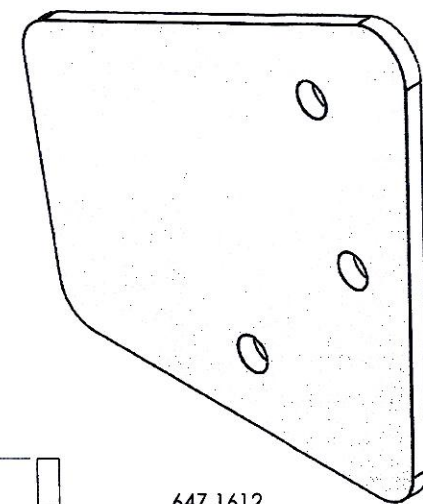
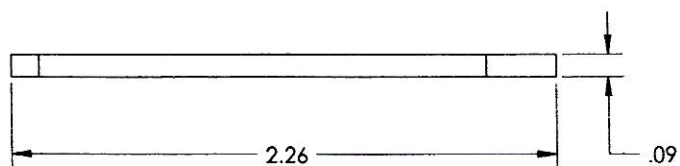
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A

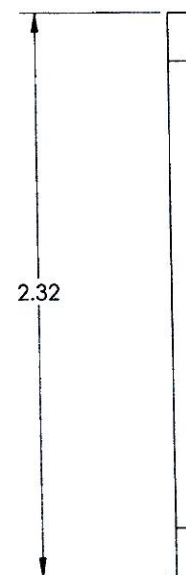
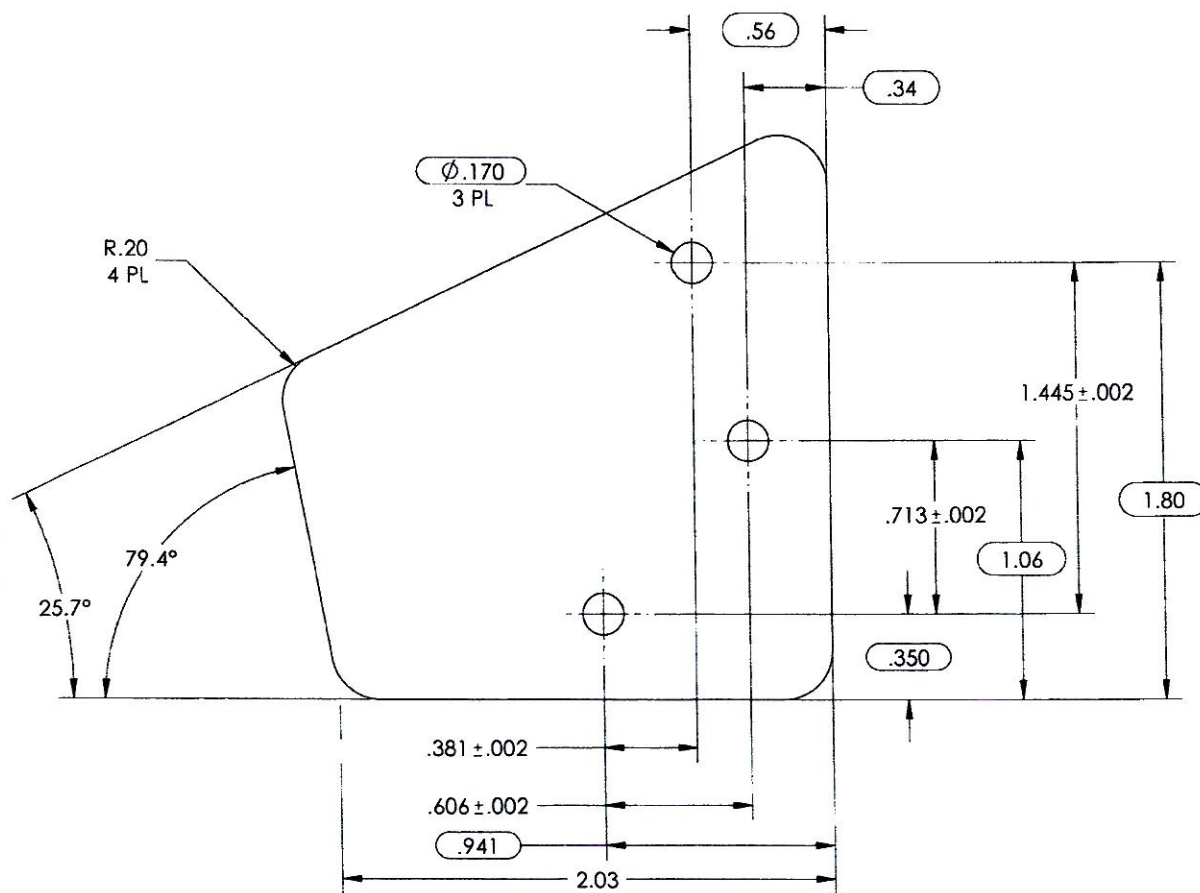
B

C

D

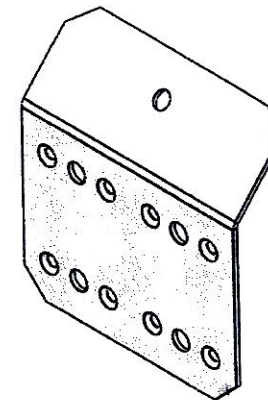
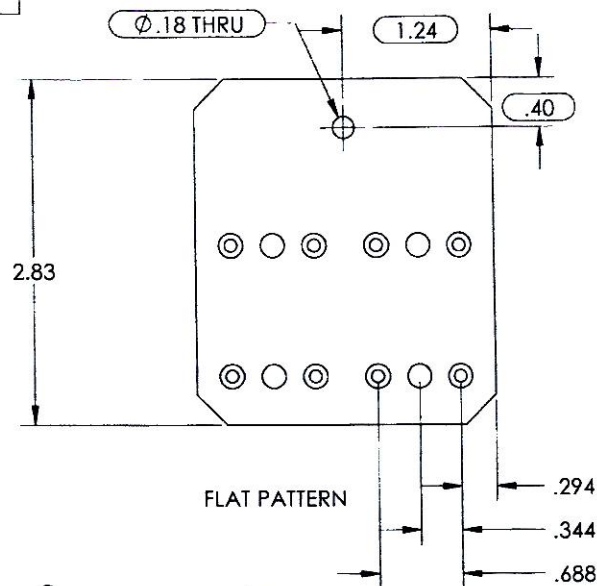


647.1612

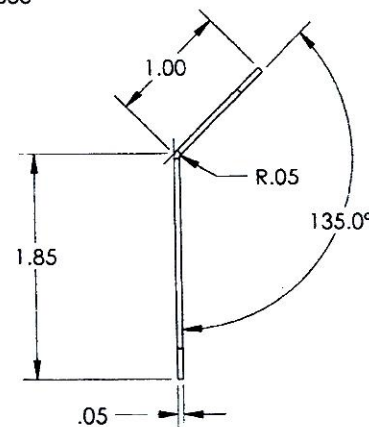
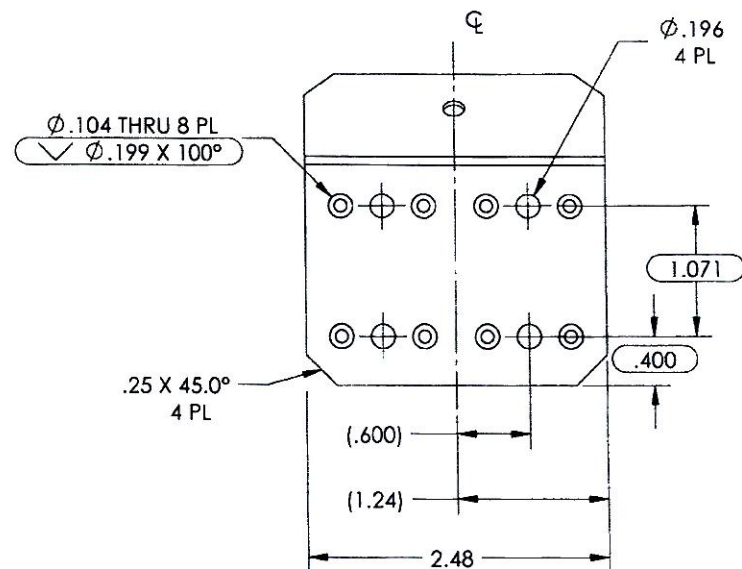


ORIGINAL DATE 11/03/04		APICAL INDUSTRIES	
DRAWN BY: J. CARTNER		2608 TEMPLE HEIGHTS DR.	
CHECKED BY: P. BRAY		OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVAL P. BRAY		WIPER DEFLECTOR ASSY	
CONTRACT NO.		SIZE: 8 1/2" X 11"	REV: A
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .005 ANGLES ± 1°		DWG NO: 647.1600	SHEET 5 OF 6
		SCALE: NONE	

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647.1613



ORIGINAL DATE 10/24/12		APICAL INDUSTRIES	
DRAWN BY J. GARDNER		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760) 724-5300	
CHECKED BY P. BRAVO		WIPER DEFLECTOR ASSY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .005 ANGLES ± .5°		SHEET 1 OF 6	REV. A